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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,497	05/16/2006	Hiroyuki Inokawa	286597US6PCT	1615
22850 7590 08/24/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER KITEMA, BENYAM				
ART UNIT		PAPER NUMBER		
2629				
NOTIFICATION DATE		DELIVERY MODE		
08/24/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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# Office Action Summary

**Application No.**

10/579,497

**Applicant(s)**

INOKAWA, HIROYUKI

**Examiner**

BENYAM KETEMA

**Art Unit**

2629

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 May 2009.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-20 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 16 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. In an amendment dated, May 26, 2009 the applicant amended claims 1-15 and added Claims 16- 20, Currently claims 1- 20 are pending.
2. In view of the explanation given in response to the office action, objection to the drawing has been withdrawn.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9 and 11-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Fukumoto et al. (US PG Pub No 2002/0149561).

**As in Claim 1, 6, 7 and 8**, Fukumoto et al. discloses *an input apparatus* (Paragraph 2), *information process apparatus* (Paragraph 330), *a remote control apparatus*

(Paragraph 204 line 4 wireless communication unit) and a control method for performing an input operation on a front surface of a panel (Paragraph 7), comprising:

- *input detection means for detecting an input operation and confirming whether the input operation is a pressing operation or a touching operation is being performed on the front surface of the panel;* (Paragraph 287- 289 and Fig 46) discloses that the CPU receives an operation input and determine whether it's a touch or press signal and confirms to the user accordingly.
- *waveform generation means for generating a first signal waveform having a first amplitude* (Paragraph 13 line 1- 6 and Paragraph 168 line 7-11) discloses first vibration generator (*waveform generation means*) generates a vibration to be received by operation unit (receiver) when the device is pressed or touched. Wherein the vibration generator and waveform data of Fukumoto et al. performs same as waveform generator and signal waveform of Inokawa respectively. And (Paragraph 290- 292) discloses that once the user contacted the panel using his or her fingertip a weak vibration (i.e. smaller amplitude) is transmitted to the user (which is first signal)
- *when the input detection means detects that the input operation\_is being performed and* (Paragraph 7 line 1- 8) discloses an operation unit (input detection means) receives an operation input from hand-touched portion of the electronic device.
- *generating a second signal waveform having a second amplitude which is larger than the first amplitude after the input detection means confirms the input*

*operation is a pressing operation* (Paragraph 290- 292) discloses that once the user contacted the panel using his or her fingertip a weak vibration (i.e. smaller amplitude) is transmitted to the user (which is first signal) then once the user presses the panel (instead of touching) then a second signal having second amplitude is transmitted to the user. Fukumoto et al does not explicitly disclose the second signal having larger amplitude than the first, but it would have been obvious to have larger amplitude than the first one in order to let the user know that the pressing operation has been received.

- *panel deforming means for deforming the panel corresponding to the signal waveforms generated by the waveform generation means.* (Paragraph 52 line 1-16)

**As in Claim 2,** Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 1, wherein the first signal waveform generated by the waveform generation means has a higher frequency than the second\_signal waveform generated by the waveform generation means. (Paragraph 351 line 4-8)

**As in Claim 3,** Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 1, wherein the input detection means detects a signal form the input operation that changes as the input operation is being performed on the front surface of the panel and uses the signal from the input operation to confirm whether the pressing operation or the touching operation is being preformed on the front surface of the panel,

[(Paragraph 287- 289 and Fig 46) discloses that the CPU receives an operation input and determine whether it's a touch or press signal and confirms to the user accordingly], *and wherein the waveform generation means generates the first signal waveform after* [(Paragraph 13 line 1- 6 and Paragraph 168 line 7-11) discloses first vibration generator (*waveform generation means*) generates a vibration to be received by operation unit (receiver). Wherein the vibration generator and waveform data of Fukumoto et al. performs same as waveform generator and signal waveform of Inokawa respectively. And (Paragraph 290- 292) discloses that once the user contacted the panel using his or her fingertip a weak vibration (i.e. smaller amplitude) is transmitted to the user (which is first signal)] *the signal form the input operation is detected by the input detection means and starts changing, and generates the second signal waveform after the signal from the input operation becomes stable so as to confirm the pressing operation.* (Paragraph 290- 292) discloses that once the user contacted the panel using his or her fingertip a weak vibration (i.e. smaller amplitude) is transmitted to the user (which is first signal) then once the user presses the panel (instead of touching) then a second signal having second amplitude is transmitted to the user.

**As in Claim 4**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) *as set forth in claim 1, wherein the waveform generation means varies the first signal waveform after the input operation is performed until the pressing operation is confirmed.* (Paragraph 290) discloses that a weaker vibration (first signal waveform) is transmitted to the user till pressing operation is confirmed.

**As in Claim 5**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 1, wherein when the input detection means detects that the input operation is being preformed on a portion of the front surface of the panel where a pressing operation will not be recognized by the input detection means, the waveform generation means generates only the first signal waveform after the input operation is started until the pressing operation is confirmed. (Paragraph 287- 290)

**As in Claim 9, 13, 14 and 15**, Fukumoto et al. discloses *an input apparatus* (Paragraph 2), *information process apparatus* (Paragraph 330), *a remote control apparatus* (Paragraph 204 line 4 wireless communication unit and Paragraph 430 line 6) and *a control method for performing an input operation on a front surface of a panel* (Paragraph 7), comprising:

- *input detection means for detecting an input operation and confirming whether the input operation is a pressing operation or a touching operation being performed on the front surface of the panel;* (Paragraph 287- 289 and Fig 46) discloses that the CPU receives an operation input and determine whether it is a touch or press signal operation has been inputted and confirms to the user accordingly.
- *time period measurement means* (Fig 2 item 113) *for measuring a time period from when the input operation is detected until the pressing operation is confirmed* (Paragraph 168-173 and fig 5) discloses that CPU of the device

determines the touch signal and count the time for the drive signal to be applied.

- *panel deforming means for deforming the panel corresponding to the signal waveform generated by the waveform generation means.* (Paragraph 52 line 1-16 and Paragraph 354 line 3-7)
- *waveform generation means* (Fig 2 item 113) *for generating a signal waveform based on a length of the time period measured by the time period measurement* (Fig 2 item 113) *means;* (Paragraph 208-209) discloses a waiting time period between touch period and reporting period, therefore the output of vibration (*signal waveform*) that is generated when the user touch input device would corresponds to time period (reporting period) measured by CPU. It is also inherent to touch screen to have some kind of time period between input time and response time wherein the device would calculate whether to transmit a response signal based on length of time (trash hold) set for recognition of an input.

**As in Claim 11**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) *as set forth in claim 9, wherein the signal waveform generation by the waveform generation means* (Paragraph 355 line 6-10 and Fig 59 & 60 item 550) *when the time period measured by the time period measurement means is shorter than a predetermined time period has an amplitude which is larger than an amplitude of the signal waveform generated by the waveform generation means\_when the time period*



*measured by the time period measurement means is longer than the predetermined time period. (Paragraph 405 line 1- 10) discloses waveform data that is stored in the memory and accessed by the CPU can be varied.*

**As in Claim 12**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 9, wherein the input detection means detects a signal from the input operation that varies as the input operation is being performed on the front surface of the panel and uses the signal from the input operation to confirm whether the pressing operation or the touching operation is being performed on the front surface of the panel, [(Paragraph 287- 289 and Fig 46) discloses that the CPU receives an operation input and determine whether it's a touch or press signal and confirms to the user accordingly.] and wherein the time period measurement means confirms the pressing operation is being performed when the signal that varies while the input operation is performed becomes stable (Paragraph 290)

**As in Claim 16**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 3, wherein the waveform generation means generates the second signal waveform after the signal from the input operation become stable and maintains stability for a predetermined period of time. (Paragraph 290) discloses that the first signal is transmitted to the user which is inherently stable, then once the user applies pressing operation the second signal is transmitted to the user.

**As in Claim 17**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 3, wherein the signal from the input operation changes based on a change in a coordinate location of the input operation on the front surface of the panel and the signal from the input operation is stable if the coordinate location of the input operation on the front surface of the panel does not change. (Paragraph 289 & 290)

**As in Claim 18**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 9, wherein the waveform generation means generates another signal waveform while the time period measurement means measures the time period, [(Fig 5) discloses that while the counter (i.e. time period measurement) is measuring the time period another signal (drive signal) is being generated.]and the panel deforming means deforms the panel corresponding to the another signal waveform until the time period has been measured, and then deforms the panel corresponding to the signal waveform based on the length of the measured time period after the time period has been measured. (Fig 59 & 60 and Paragraph 354- 355)

**As in Claim 19**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as set forth in claim 12, wherein the time period measurement means confirms the pressing operation is being performed when the signal that varies while the input operation is performed becomes stable and maintains stability for a predetermined period of time. (Paragraph 290) discloses that the first signal is transmitted to the user which is inherently stable then once the user applies pressing operation the second signal is transmitted to the user to confirm pressing operation.

**As in Claim 20**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) *as set forth in claim 12, wherein the signal from the input operation varies based on a change in a coordinate location of the input operation on the front surface of the panel and the signal from the input operation is stable if the coordinate location of the input operation on the front surface of the panel does not change.* (Paragraph 289 & 290)

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto et al. (US PG Pub No 2002/0149561) in view of Kobayashi et al. (US PG Pub No 2004/0021645).

**As in Claim 10**, Fukumoto et al. discloses *the input apparatus* (Paragraph 2) as discussed above, but fails to disclose *the signal waveform generated by the waveform generation means has an amplitude reversely proportional to the time period measured by the time period measurement means*. However, Kobayashi et al. (Fig 3 item 106,108 and Paragraph 72-77) discloses the relation between amplitude and time, where the waveform attenuate as time gets longer. Fukumoto et al. and Kobayashi et al. are analogous art because they are from the common area of user interface device that has input detection system. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the references (Fukumoto et al. and Kobayashi et al.), because Kobayashi et al. discloses the time required for the sonic wave generated by the sonic wave generation source to arrive at each of the detection sensors 3\_Sa to 3\_Sd can be measured. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the input device of Fukumoto et al. so that the amplitude of the waveform is inversely proportional to time period because Fukumoto et al. discloses an input device that shows a relation between amplitude and time as found in claim 6.

### ***Response to Arguments***

8. Applicant's arguments filed May 05, 2008 have been fully considered but they are not persuasive.

9. On page 14 of the Remarks, the applicants argue that Fukumoto et al does not teach ***a first amplitude when the input detection means detects that the input operation is being performed, and generating a second signal waveform having a second amplitude which is larger than the first amplitude after the input detection means confirms the input operation is a pressing operation.*** Further more applicants argue that Fukumoto fails to describe a waveform generation means.

The Examiner respectfully disagrees. Fukumoto et al disclose in Paragraph 287- 290 that the touch panel can detect two operating states, that is, touch operation and pressing operation. Wherein the first signal is transmitted to the user finger after the touch or press operation is identified (i.e. in the given example a touch operation). While the finger still on the touch panel a weak signal is transmitted to the user finger till pressing operation is inputted. Once the pressing operation has been inputted then a second signal would be transmitted in order to confirm the input operation is a pressing operation. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply confirmation signal that has larger amplitude than the first signal in order to let the user know that the pressing operation has been received. In regards to waveform generation means waveform is generated as the user inputs an operation command so that the device can compare the signal with the waveform that is stored in the memory.

As to Claim 5 on page 15 of the Remarks, the applicants argue that Fukumoto et al does not teach ***the waveform generation means generates only the first signal waveform after the input operation is started until the pressing operation is***

**confirmed.** The Examiner respectfully disagrees. Fukumoto et al disclose in Paragraph 290 that when the touching operation is performed the first signal (weak signal) is sent then the second signal is transmitted when the pressing operation is confirmed.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **BENYAM KETEMA** whose telephone number is (571)270-7224. The examiner can normally be reached on Monday- Friday 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shalwala Bipin H can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ Benyam Ketema /

Examiner, Art Unit 2629

/Bipin Shalwala/

Supervisory Patent Examiner, Art Unit 2629